

Claims

What is claimed is:

- 1 1. An apparatus comprising:
- 2 at least one sensor communicating sensor added information to a
- 3 communication device within a network to control a power level of the
- 4 communication device or another device within the wireless network, or to
- 5 adjust a system capacity of the network, wherein the at least one sensor is
- 6 physically separate from the communication device.
- 1 2. The apparatus as claimed in claim 1, wherein the at least one sensor
- 2 includes a smart sensor capable of taking multiple types of measurements at
- 3 programmable intervals and transmitting the measurements to the
- 4 communication device at the programmable intervals.
- 1 3. The apparatus as claimed in claim 1, wherein the communication device
- 2 transmits the sensor added information to a central controller.
- 1 4. The apparatus as claimed in claim 1, wherein the communication device
- 2 uses a service discovery protocol to look for a fixed position sensor for additional
- 3 sensor information to adjust the power level of the communication device.
- 1 5. The apparatus as claimed in claim 1, wherein the at least one sensor
- 2 includes a motion sensor, the motion sensor being used to place the
- 3 communication device in a stand-by power mode when the communication device
- 4 is moving or to place the communication device in an active mode when the
- 5 communication device is still.

1 6. The apparatus as claimed in claim 1, wherein the at least one sensor
2 determines a position of the communication device and if the position of the
3 wireless communication device is an active position, the communication device is
4 placed in an active power mode and if the position of the communication device is
5 an inactive position, the communication device is placed in a stand-by power
6 mode.

1 7. A wireless network comprising:

2 at least one master device, each of the at least one master devices being capable
3 of initiating an action or requesting a service on the wireless network; and

4 a plurality of slave devices wirelessly connected to each other and to a
5 corresponding master device, at least one of the plurality of slave devices or
6 the master device including at least one sensor, wherein processed sensor
7 information from the at least one sensor is shared by each of the plurality of
8 slave devices and the corresponding master device.

1 8. The wireless network as claimed in claim 7, wherein respective power
2 levels of at least one of the plurality of slave devices or the corresponding master
3 device are adjusted in accordance with the processed sensor information.

1 9. The wireless network as claimed in claim 7, wherein at least one of the
2 plurality of slave devices uses a service discovery protocol to look for a fixed
3 position sensor for additional sensor information, the additional sensor
4 information being used to select an alternate master device.

1 10. The wireless network as claimed in claim 7, wherein at least one of the
2 plurality of slave devices uses the shared processed sensor information to select an
3 alternate master device.

1 11. The wireless network as claimed in claim 7, further comprising a central
2 controller connected to the at least one master device, wherein the central
3 controller utilizes the processed sensor information to determine capacity
4 allocation and device allocation of the plurality of slave devices and the
5 corresponding master device to improve a capacity of the wireless network.

1 12. The wireless network as claimed in claim 11, wherein the central controller
2 utilizes the processed sensor information to adjust the device allocation of the
3 plurality of slave devices and the corresponding master device to improve the
4 capacity of the wireless network.

1 13. A method of improving battery life of a wireless communication device,
2 comprising:

3 sensing environmental conditions within a predetermined distance of the
4 wireless communication device with a plurality of coupled sensors;

5 determining a usage pattern match based on the sensed environmental
6 conditions; and

7 adjusting a power level of the wireless communication device in accordance
8 with the usage pattern match.

1 14. The method as claimed in claim 13, wherein the plurality of sensors are
2 selected from the group consisting of a motion sensor, a light sensor, a crowd
3 sensor, a range sensor, a moisture sensor, an inertial sensor, an accelerometer
4 sensor and a sound sensor.

1 15. The method as claimed in claim 13, wherein the wireless communication
2 device switches from a stand-by power mode to an active mode when the sensed
3 environmental conditions satisfy a predetermined condition and automatically
4 transmits a predetermined message to a predetermined device after the
5 predetermined condition is satisfied.

1 16. An apparatus in a network comprised of a plurality of communication
2 devices, comprising;

3 a communication device having at least one sensor to process and manage
4 sensor added information, the communication device capable of wirelessly
5 communicating the sensor added information to the network.

1 17. The apparatus as claimed in claim 16, wherein the sensor added
2 information is shared with at least one other communication device in the network
3 to create new information to be processed by the network, the new information
4 being used to improve system capacity limitations of the network.

1 18. The apparatus as claimed in claim 16, wherein at least one of the plurality
2 of communication devices is a fixed device.

1 19. The apparatus as claimed in claim 16, wherein at least one of the plurality
2 of communication devices is a wireless communication device.

1 20. The apparatus as claimed in claim 16, wherein sensor added information is
2 used to adjust a power level of the at least one of the plurality of communication
3 devices.

1 21. The apparatus as claimed in claim 16, wherein the at least one sensor is a
2 moisture sensor and the sensor transmits a control signal to the network when a
3 predetermined level of moisture is detected by the sensor.

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